

## **CLAIMS**

1. A network terminal apparatus, comprising:  
a communication unit operable to communicate through a network;

5 a judgment unit operable to judge whether or not the communication is in an overload condition; and

an invalidation unit operable to invalidate data received by said communication unit in the case where said judgment unit judges that the communication is in an overload condition.

10 2 The network terminal apparatus according to Claim 1,  
wherein said judgment unit is operable to judge the communication is in an overload condition in the case where an amount of data received per unit time from the network exceeds a  
15 threshold.

3. The network terminal apparatus according to Claim 1,  
wherein said judgment unit is operable to judge the communication is in an overload condition in the case where an  
20 amount of data received in a receiving buffer that temporarily holds the received data exceeds a threshold.

4. The network terminal apparatus according to Claim 2,  
wherein said judgment unit is operable to compare the  
25 received data in communication processing corresponding to a data link layer with the threshold.

5. The network terminal apparatus according to Claim 2, further comprising

30 a determination unit operable to dynamically determine the threshold depending on a load condition of a process other than communication in said network terminal apparatus,

wherein said judgment unit is operable to judge whether or not the communication is in an overload condition using the determined threshold.

5 6. The network terminal apparatus according to Claim 5,  
wherein said determination unit is operable to determine the threshold depending on a number of running application programs in said network terminal apparatus.

10 7. The network terminal apparatus according to Claim 6,  
wherein said determination unit is operable to determine the threshold depending on (i) the number of running application programs in said network terminal apparatus and (ii) a weight predetermined with respect to each application program.

15

8. The network terminal apparatus according to Claim 1,  
wherein said communication unit includes:

a first communication processing unit operable to execute a communication processing corresponding to a physical layer and a data link layer;

20

a receiving buffer that temporarily holds received data from the first communication processing unit; and

25

a second communication processing unit operable to take the received data from the receiving buffer and execute communication processing for the received data corresponding to a network layer and the upper layers, and

said judgment unit is operable to judge the communication is in an overload condition in the case where an amount of the received data held in said receiving buffer exceeds the threshold.

30

9. The network terminal apparatus according to Claim 2,  
wherein said communication unit is operable to execute

hierarchical communication processing, and

said invalidation unit is operable to prohibit one of the interlayer logical connection.

- 5 10. The network terminal apparatus according to Claim 2,  
wherein said communication unit includes:

a first communication processing unit operable to execute communication processing corresponding to a physical layer and a data link layer; and

- 10 a second communication processing unit corresponding to a network layer and the upper layers, and

said invalidation unit is operable to prohibit said first communication processing unit from notifying said second communication processing unit of received data.

15

11. The network terminal apparatus according to Claim 1,  
wherein said judgment unit includes:

a first detection unit operable to detect that the communication is in an overload condition; and

- 20 a second detection unit operable to detect a recovery from the overload condition, and

said network terminal apparatus further comprises

a release unit operable to release the invalidation by said invalidation unit when a recovery from the overload condition is  
25 detected.

25

12. The network terminal apparatus according to Claim 11,

wherein said first detection unit is operable to detect that the communication is in an overload condition when an amount of data  
30 received per unit time from the network exceeds a first threshold,  
and

said second detection unit is operable to detect a recovery

from the overload condition when an amount of the data received per unit time by said communication unit is below a second threshold, after the overload condition is detected by the first detecting unit.

5

13. The network terminal apparatus according to Claim 12, wherein said communication unit is operable to execute hierarchical communication processing, and said invalidation unit is operable to prohibit one of the interlayer logical connection.

10

14. The network terminal apparatus according to Claim 13, wherein said communication unit includes:  
a first communication processing unit operable to execute communication processing corresponding to a physical layer and a data link layer; and  
a second communication processing unit corresponding to a network layer and the upper layers,  
said first detection unit is operable to judge whether or not the data received by said first communication processing unit exceeds the first threshold,  
said invalidation unit is operable to prohibit said first communication processing unit from notifying said second communication processing unit of the received data, and  
said second detection unit is operable to check whether an amount of data received by the first communication processing unit is below the second threshold.

15

20

25

30

15. The network terminal apparatus according to Claim 14, wherein said first communication processing unit is operable to notify said second communication processing unit of received data by an interrupt signal,

said invalidation unit is operable to prohibit the notification by masking the interrupt signal, and

said release unit is operable to release the masking of the interrupt signal.

5

16. A communication overload avoiding method in a network terminal apparatus including a communication unit operable to communicate through a network, comprising:

10 judging whether or not communication is in an overload condition; and

invalidating data received by said communication unit in the case where the judgment is that the communication is in an overload condition.

15 17. The communication overload avoiding method according to Claim 16,

wherein, in said judging, it is judged that the communication is in an overload condition in the case where an amount of received data per unit time from a network exceeds a threshold.

20

18. The communication overload avoiding method according to Claim 16,

25 wherein, in said judging, it is judged that the communication is in an overload condition in the case where an amount of received data in a receiving buffer that temporarily holds the received data exceeds a threshold.

19 The communication overload avoiding method according to Claim 17,

30 wherein, in said judging, the received data in communication processing corresponding to a data link layer is judged using the threshold.

20 The communication overload avoiding method according to Claim 17, further comprising

5 dynamically determining the threshold depending on a load condition of a process other than communication in said network terminal apparatus,

wherein, in said judging, it is judged whether or not the communication is in an overload condition using the determined threshold.

10 21 The communication overload avoiding method according to Claim 20,

wherein, in said determining, the determined threshold is determined depending on a number of running application programs  
15 in said network terminal apparatus.

22 The communication overload avoiding method according to Claim 21,

wherein said communication unit includes a first  
20 communication processing unit operable to execute communication processing corresponding to a physical layer and a data link layer, a receiving buffer that holds data received from the first communication processing unit temporarily and a second communication processing unit operable to take the received data  
25 from the receiving buffer and execute communication processing corresponding to a network layer and the upper layers, and

in said judging, it is judged that the communication is in an overload condition in the case where an amount of received data held in said receiving buffer exceeds the threshold.

30 23 The communication overload avoiding method according to Claim 16,

wherein the communication unit is operable to execute hierarchical communication processing, and

in said invalidating, one of the interlayer logical connection is prohibited.

5

24 The communication overload avoiding method according to Claim 16,

wherein said communication unit includes:

10 a first communication processing unit operable to execute communication processing corresponding to a physical layer and a data link layer; and

a second communication processing unit corresponding to a network layer and the upper layers, and

15 in said invalidating, said first communication processing unit is prohibited from notifying said second communication processing unit of received data.

25 A program for avoiding a communication overload in a network terminal apparatus including a communication unit that communicates through a network, said program causing a computer in the network terminal apparatus to execute:

judging whether or not communication is in an overload condition; and

25 invalidating data received by said communication unit in the case where the judgment is that condition is overloaded.